

Smartcare Epoxy Bond EP

Epoxy bonding agent for bonding concrete, steel and granolithic toppings

Description

SmartCare Epoxy Bond EP is a two component solvent free epoxy based bonding agent for application of internal or external bonding of renderings, granolithic toppings, and concrete to concrete. It tolerates a degree of moisture before and during curing and is insoluble when cured. SmartCare Epoxy Bond EP does not shrink and provides an even and stress-free bond. The long 'open' life makes it suitable for use with formwork or where additional steel reinforcement has to be fitted.

Uses

- For bonding fresh wet cementitious materials to existing cementitious surfaces.
- For use on horizontal surfaces or on vertical surfaces where mortar or concrete can be supported by formwork.
- The product is ideal for roads, bridges, pavements, loading bays and factories, and for bonded or granolithic floor toppings.
- SmartCare Epoxy Bond EP is equally suited to internal and external applications.

Characteristics/ Advantages

SmartCare Epoxy Bond EP may also be used as part of a repair system where a substrate/repair barrier is required or where the substrate is likely to remain permanently damp or wet.

- Can be applied on to dry or damp substrates
- Exhibits high mechanical strength
- High chemical resistance
- Positive adhesion - exceeds that of the tensile strength of the host concrete
- Slow cure allows time to erect steel reinforcement and formwork
- Solvent-free - can be used in enclosed locations
- Non shrink
- Moisture tolerant
- Resistant to chemical attack

Packing

| | |
|-------------------------|------------------|
| SmartCare Epoxy Bond EP | 1 & 4liter packs |
|-------------------------|------------------|

Supplied in pre-weighed units

Coverage

1 Liter will cover 3.5 to 4 m².

Note: The coverage figures for SmartCare Epoxy Bond EP products are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced.

Properties

| PROPERTIES | VALUES | TEST STANDARDS |
|---|-------------------------|----------------|
| Color & appearance | Greenish viscous liquid | - |
| Density, [g/cc] | 1.3±0.05 | ASTM D 1475 |
| Application life, [minutes] @ 30°C | 90 | BS 4254 |
| Tack free time, [hours] | 3 hours @ 45°C | ASTM C 882 |
| Compressive strength | 70 N/mm ² | ASTM D695 |
| Tensile strength | 30 N/mm ² | ASTM D638 |
| Slant shear bond strength, [N/mm ²] | > 30 | ASTM C 882 |
| Water absorption @24 hours, [%] | < 1 | ASTM D 570 |

All values given are subject to 5-10% tolerance

Standards compliance

ASTM C881: Type II, grade 2 class E & F
Application temperature, [°C] 5 to 30

| Application Aspects | |
|----------------------|----------------------------------|
| Working Life | Value |
| @ 25°C | 120mins |
| @ 30°C | 90 mins |
| Full cure | 7 days @ 35°C 5 days @ 45°C |
| Maximum Overlay time | 5 hours @ 35°C 3 hours @ 45°C |
| Minimum overlay time | Overlay when tacky but not wet. |

Application Method

Surface Preparation

Clean all surfaces and remove any dust, unsound material, plaster, oil, paint, grease, corrosion deposits or algae. Roughen the surfaces, remove any laitance and expose the aggregate by light scabbling or grit-blasting.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination and soundness of the substrate should then be assessed by a pull-off test.

Mixing

Any steel reinforcement and formwork should be prepared, cut to size and shape, and made ready for assembly before mixing commences.

Care should be taken to ensure that SmartCare Epoxy Bond EP is thoroughly mixed. The 'hardener' and 'base' components should be stirred separately before mixing to disperse any settlement.

The entire contents of the 'hardener' tin should then be poured into the 'base' tin and the two materials thoroughly mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until a fully uniform color is obtained. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes.

Application

SmartCare Epoxy Bond EP should be applied as soon as the mixing process has been completed. It should be brush or roller applied to the prepared surfaces, being sure to achieve an unbroken coating across the entire substrate.

SmartCare Epoxy Bond EP should be tacky before the new concrete; screed or mortar is placed.

The maximum overlay times (see Properties) should also be carefully observed. Failure to apply the new concrete, screed or mortar within the maximum over-coating time will result in SmartCare Epoxy Bond EP becoming 'hard', thus creating a slip plane rather than a bonding action.

If the maximum overlay time is missed, then the SmartCare Epoxy Bond EP must be mechanically removed and a fresh application made. The concrete, screed or mortar should then be applied in accordance with the over-coating minimum and maximum stated above.

As soon as the SmartCare Epoxy Bond EP has been applied, any required steel reinforcement and/or formwork should be erected and fixed securely in place

Cleaning

SmartCare Epoxy Bond EP should be removed from tools, equipment and mixers using Asian Paints Berger Tool Cleaner immediately after use. Hardened material can only be removed mechanically.

High temperature working

Whilst the performance properties of SmartCare Epoxy Bond EP at elevated temperatures are assured, application under such conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 35°C, the following guidelines are adopted as a prudent working regime:

- (i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- (ii) Keep mixing and placing equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Try to eliminate application in the middle of the day, and certainly avoid application in direct sunlight.
- (iv) Have a ready supply of Asian Paints Berger Tool Cleaner available for immediate cleaning of tools after use.

Note: SmartCare Epoxy Bond EP should not be applied when the temperature is below 5°C or is 5°C and falling. If any doubts arise concerning temperature or application conditions, consult Asian Paints Berger SmartCare Technical team.

Storage and Shelf life

The shelf life of the product is up to 12 months for SmartCare Epoxy Bond EP and 12 months for Asian Paints Berger Tool Cleaner at 30°C if stored in a dry, cool and shaded condition. Excessive exposure to heat, UV and sunlight will result in the deterioration of the quality of the product and reduce its shelf life.

Health & Safety Features

As with all Construction chemical products, caution should always be exercised. Protective clothing, such as gloves and goggles, should be worn (see packaging for specific instructions). Treat any splashes to the skin or eyes with fresh water Immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

Note: The information supplied in our literature or given by our employees is based on extensive experience and, together with that supplied by our agents or distributors, is given in good faith to help you. Our company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of work, we accept no liability for any loss or damage which may arise as a result thereof.

Version No. V01/25. Please note that this datasheet supersedes all previous versions UAE



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